

AMENDMENTS TO THE CLAIMS

The listing of claims presented below will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1. (currently amended) An apparatus for repeating a downlink signal from a satellite to a mobile station in a shadow area, the apparatus comprising:
 - a receiving unit for receiving the downlink signal and amplifying the received downlink signal from the satellite;
 - a radiating unit for radiating the amplified downlink signal to the shadow area;and
 - a feeding unit for directly feeding the received and amplified downlink signal from an output of receiving unit through a first feeding line to an input of the radiating means,
 - wherein the radiating unit comprises:
 - a symmetrical dual downlink transmitting antenna provided with a first microstrip patch array antenna and a second microstrip patch array antenna; and
 - a divider having an input for attaching the first feeding line,
 - wherein the divider divides the receive received and amplified downlink signal, and
 - wherein the divider has a first output and a second output,
 - wherein the first output **only** feeds the divided received and amplified downlink signal through a second feeding line to an input of a first portion,
 - wherein the second output **only** feeds the divided received and amplified

downlink signal through a third feeding line to an input of a second portion, and passing only the divided received and amplified downlink signal of the first portion to the first microstrip patch array antenna and passing only the divided received and amplified downlink signal of the second portion to the second microstrip patch array antenna,

where the dual microstrip patch array antenna is used only as a transmitting antenna,

wherein the dual microstrip patch array antenna is formed to output a signal from each of the first microstrip patch array antenna and the second microstrip patch array antenna in an asymmetrical or symmetrical radiation pattern,

wherein the dual microstrip patch array antenna only radiates for only radiating the divided received and amplified downlink signal in the shadow area,
which is done for maximizing the divided received and amplified downlink signal being received by the mobile station in the shadow area,

wherein the output signal from each of the first microstrip patch array antenna and the second microstrip patch array antenna is a duplicate signal of the amplified downlink signal which was inputted into the divider, and

wherein the radiating divided received and amplified downlink signal received by the mobile station is adjustable from any changes to the shadow area and [[a]] any direction the mobile station travels in the shadow area.

2. (previously presented) The apparatus of claim 1, wherein the receiving unit comprises:

a microstrip patch array antenna for receiving the signal from the satellite; and

an amplifier for amplifying the received signal from the microstrip patch array antenna.

3. (previously presented) The apparatus of claim 2, wherein the radiating unit is installed in the shadow area.

4. (previously presented) The apparatus of claim 2, wherein the microstrip patch array antenna and the amplifier are implemented as one piece and further comprises a probe for transiting the signal received from the microstrip patch array antenna to the amplifier.

5. (cancelled)

6. (previously presented) The apparatus of claim 1, wherein the shadow area is an overpass.

7. (previously presented) The apparatus of claim 1, wherein the receiving unit is located at a position where a line of sight to the satellite is secured.

8. (cancelled)

9. (previously presented) The apparatus of claim 1, wherein the shadow area is an underpass.

10. (previously presented) The apparatus of claim 8, wherein the first microstrip patch array antenna and the second microstrip patch array antenna are coupled by a hinge to tilt a radiation angle of the symmetrical dual transmitting antenna.